



US006239986B1

(12) **United States Patent**
Otsuka

(10) **Patent No.:** **US 6,239,986 B1**
(45) **Date of Patent:** **May 29, 2001**

(54) **HOUSING BODY OF ELECTRONIC EQUIPMENT**

(75) Inventor: **Yumiko Otsuka**, Tokyo (JP)

(73) Assignee: **Koyo Electronics Industries Co., Ltd.**, Tokyo (JP)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/273,988**

(22) Filed: **Mar. 22, 1999**

(30) **Foreign Application Priority Data**

Nov. 30, 1998 (JP) 10-338691

(51) **Int. Cl.⁷** **H05K 7/14**

(52) **U.S. Cl.** **361/796; 361/728; 361/752; 361/801; 362/249**

(58) **Field of Search** 361/728, 736, 361/752, 759, 784, 801, 796, 807-810; 362/249; 340/630; 439/65; 220/4.02

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,002,493 * 3/1991 Brown et al. 439/65
5,938,324 * 8/1999 Salmon et al. 361/555

* cited by examiner

Primary Examiner—Jayprakash N. Gandhi

(74) *Attorney, Agent, or Firm*—Ladas and Parry

(57) **ABSTRACT**

A housing body of electronic equipment has a square base body having a circumferential wall and a box-like case assembled with the base body. The base body has a built-in printed board assembly including first, second and third printed boards of which the first and second printed boards are arranged above one another, and the third printed board has engaging pawls formed at both its end portions engaged with one side of the first and second printed boards perpendicular thereto. The base body is provided with a plurality of printed board engaging members at an inner side of its circumferential wall, and with first support portions and struts in the vicinity of four corner portions of the base body. Each strut of one pair of struts opposed to each other is provided at its opposed face with a guide groove and with a printed board engaging hole which communicates with the guide groove. Each strut of the other pair of struts opposed to each other is provided with a second support portion at an upper end portion thereof. The first printed board is placed on the first support portion so as to be engaged with the printed board engaging members, both end portions of the third printed board being engaged in the guide grooves provided on the struts so that the engaging pawls of the third printed board are engaged with the printed board engaging holes, and end portions of the second printed board are placed on the second support portions.

8 Claims, 5 Drawing Sheets

